



General

Guideline Title

Practice parameter for the assessment and treatment of children and adolescents with schizophrenia.

Bibliographic Source(s)

McClellan J, Stock S, American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Quality Issues (CQI). Practice parameter for the assessment and treatment of children and adolescents with schizophrenia. J Am Acad Child Adolesc Psychiatry. 2013 Sep;52(9):976-90. [130 references] [PubMed](#)

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: American Academy of Child and Adolescent Psychiatry. Practice parameter for the assessment and treatment of children and adolescents with schizophrenia. Washington (DC): American Academy of Child and Adolescent Psychiatry; 2000 Jun 6. 40 p. [125 references]

Regulatory Alert

FDA Warning/Regulatory Alert

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- **May 10, 2016 – Olanzapine** : The U.S. Food and Drug Administration (FDA) is warning that the antipsychotic medicine olanzapine can cause a rare but serious skin reaction that can progress to affect other parts of the body. FDA is adding a new warning to the drug labels for all olanzapine-containing products that describes this severe condition known as Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS).
- **May 3, 2016 – Aripiprazole (Abilify, Abilify Maintena, Aristada)** : The U.S. Food and Drug Administration (FDA) is warning that compulsive or uncontrollable urges to gamble, binge eat, shop, and have sex have been reported with the use of the antipsychotic drug aripiprazole (Abilify, Abilify Maintena, Aristada, and generics). These uncontrollable urges were reported to have stopped when the medicine was discontinued or the dose was reduced. These impulse-control problems are rare, but they may result in harm to the patient and others if not recognized.
- **April 8, 2016 – Metformin-containing Drugs** : The U.S. Food and Drug Administration (FDA) is requiring labeling changes regarding the recommendations for metformin-containing medicines for diabetes to expand metformin's use in certain patients with reduced kidney function. The current labeling strongly recommends against use of metformin in some patients whose kidneys do not work normally. FDA concluded, from the review of studies published in the medical literature, that metformin can be used safely in patients with

mild impairment in kidney function and in some patients with moderate impairment in kidney function.

Recommendations

Major Recommendations

Definitions of the strength of the empirical and/or clinical support ratings (CS, CG, OP, NE) are provided at the end of the "Major Recommendations" field.

Recommendation 1. Psychiatric assessments for children and adolescents should include screening questions for psychosis. [CS]

In the psychiatric assessment, general inquiries should be made regarding changes in behavior or any evidence of problems with thinking or perceptions. Questions such as "Does your mind ever play tricks on you?," "Do you hear voices talking to you when no one is there?," and "Does your mind ever feel confused" help elicit possible symptoms. Youth with early-onset schizophrenia (EOS) can generally describe relevant aspects of their psychotic symptoms, although some will be too disorganized, confused, and/or paranoid to provide accurate details or relevant history. Parents, family members, teachers, and treatment providers are important sources of information for documenting overt changes in behavior and thinking.

It is important to gauge suspected psychosis in a developmental context. When evaluating youth, especially children younger than 12 years, the clinician must ensure that the child understands the question and that developmental considerations are taken into account. True psychotic symptoms are generally confusing to the individual and experienced as distressing external phenomena beyond the individual's control. Highly descriptive, detailed, organized, and/or situation-specific reports are less likely to represent true psychosis. Schizophrenia and other psychotic illnesses are associated with disorganized thinking and behavior and deterioration in functioning. Overt signs of the illness should be evident on the mental status examination and in descriptions of the child's behavior. Without overt evidence of psychosis, the validity of symptom reports suggestive of schizophrenia in children needs to be carefully scrutinized.

Recommendation 2. The diagnosis of schizophrenia in children and adolescents should follow the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* criteria, using the same criteria as for adults. [CS]

A comprehensive diagnostic assessment includes interviews with the child or adolescent and the family plus a review of past records and any other available ancillary information. Issues to address include overt evidence of psychotic symptoms (including mental status examination findings, symptom presentation, course of illness) and a pertinent review of systems and potential confounding factors (including any history of significant developmental problems, mood disorders, trauma, or substance abuse).

Diagnostic accuracy may be improved by using a structured diagnostic interview that is designed for youth and includes a module for psychotic illnesses. Diagnostic status should be reassessed over time because clinical presentations of psychotic illnesses tend to change, especially during the first few years of illness. In some cases, decreasing a child's medication burden (including attempting a medication-free trial if possible) may be indicated to clarify a complicated clinical presentation.

Recommendation 3. Youth with suspected schizophrenia should be carefully evaluated for other pertinent clinical conditions and/or associated problems, including suicidality, comorbid disorders, substance abuse, developmental disabilities, psychosocial stressors, and medical problems. [CS]

Youth with suspected schizophrenia require a thorough psychiatric and medical evaluation, including the assessment for common comorbid conditions, such as substance abuse or cognitive delays. When present, active psychotic symptoms are generally prioritized as the main target for treatment. Comorbid conditions, such as substance abuse, may respond better to treatment once acute symptoms of schizophrenia are stabilized. However, any life-threatening symptoms, such as suicidal behavior or severe aggressive behaviors, must be prioritized in the treatment plan.

There are no neuroimaging, psychological, or laboratory tests that establish a diagnosis of schizophrenia. The medical evaluation focuses on ruling out nonpsychiatric causes of psychosis and establishing baseline laboratory parameters for monitoring medication therapy. More extensive evaluation is indicated for atypical presentations, such as a gross deterioration in cognitive and motor abilities, focal neurologic symptoms, or delirium.

Assessments are obtained based on specific medical indications, e.g., neuroimaging studies when neurologic symptoms are present or an electroencephalogram for a clinical history suggestive of seizures. Toxicology screens are indicated for acute onset or exacerbations of psychosis when exposure to drugs of abuse cannot otherwise be ruled out. Genetic testing is indicated if there are associated dysmorphic or syndromic

features. Similarly, tests to rule out specific syndromes or diseases (e.g., amino acid screens for inborn errors of metabolism, ceruloplasmin for Wilson disease, porphobilinogen for acute intermittent porphyria) are indicated for clinical presentations suggestive of the specific syndrome in question. Broad screening for rare medical conditions is not likely to be informative in individuals with psychosis who do not present with other neurologic or medical concerns.

At the time of first diagnosis, routine laboratory testing typically assesses blood counts, liver and renal functions, and metabolic parameters and thyroid functions, which provide a general medical screen and serve as baseline assessments for medication monitoring. Neuropsychological testing cannot be used to establish the diagnosis but may be important for documenting cognitive deficits and for treatment and academic planning.

Recommendation 4. Antipsychotic medication is a primary treatment for schizophrenia spectrum disorders in children and adolescents. [CS]

The efficacy of antipsychotic medications in the acute treatment of adults with schizophrenia is well established. In community settings, the atypical agents are often considered the preferred treatment. However, large adult trials, including the Clinical Antipsychotic Trials of Intervention Effectiveness study, the Cost Utility of the Latest Antipsychotic Drugs in Schizophrenia study, and the European First-Episode Schizophrenia Trial study, raise questions as to whether second-generation (atypical) antipsychotics truly have superior efficacy than first-generation (typical) antipsychotics. Furthermore, many patients do not maintain the same medication treatment long term, often owing to lack of efficacy, side effects, or noncompliance.

Antipsychotic agents are also considered first-line treatment for schizophrenia spectrum disorders in youth, with second-generation agents typically being the treatments of first choice. It is recommended that these agents are used in conjunction with psychotherapeutic interventions (see Recommendation 9 below).

At this time, most atypical and traditional agents, with the exception of clozapine, can be used as primary treatment options for EOS. Risperidone, aripiprazole, quetiapine, paliperidone, and olanzapine are approved by the Food and Drug Administration for treating schizophrenia in adolescents 13 years and older. Haloperidol and molindone are approved by the Food and Drug Administration for treating schizophrenia in youth 13 years and older. However, the production of molindone was discontinued by the manufacturer.

Safety and effectiveness data addressing the use of antipsychotic medications for EOS remain limited and for the most part reflect short-term use. Comparative trials are generally lacking. The choice of which agent to use first is typically based on Food and Drug Administration approval status, side effect profile, patient and family preferences, clinician familiarity, and cost. Individual responses to different antipsychotics are variable, and if insufficient effects are evident after a 6-week trial using adequate dosages, a different antipsychotic agent should be tried. The risk for weight gain with olanzapine may limit its use as a first-line agent. An industry-sponsored trial of ziprasidone for adolescents with schizophrenia was terminated prematurely in 2009 because of a lack of efficacy. Therefore, ziprasidone probably should not be considered for this population unless other data supporting efficacy become available.

Depot antipsychotics have not been studied in pediatric age groups and have inherent risks with long-term exposure to side effects. Therefore, they should be considered only in schizophrenic adolescents with documented chronic psychotic symptoms and a history of poor medication adherence.

Recommendation 5. Ongoing medication therapy should be provided to most youth with schizophrenia to improve functioning and prevent relapse. [CS]

Most individuals with schizophrenia need long-term treatment and are at significant risk of relapse if their antipsychotic medication is discontinued. Most youth with EOS remain chronically impaired, even with treatment. Patients should maintain regular physician contact to monitor symptom course, side effects, and adherence. The goal is to maintain the medication at the lowest effective dose to minimize potential adverse events. Many youth will continue to experience some degree of positive or negative symptoms, requiring ongoing treatment. The patient's overall medication burden should be reassessed over time, with the goal of maintaining effective dosages and minimizing side effects. Adjustments in medications should be gradual, with adequate monitoring for changes in symptom severity. After a prolonged remission, a small number of individuals may be able to discontinue antipsychotic medications without re-emergence of psychosis. In these situations, periodic longitudinal monitoring is still recommended because some of these patients may eventually experience another psychotic episode.

Recommendation 6. Some youth with schizophrenia spectrum disorders may benefit from adjunctive medication treatments to address side effects of the antipsychotic agent or to alleviate associated symptomatology (e.g., agitation, mood instability, depression, explosive outbursts). [CG]

Adjunctive medications commonly used in clinical practice include antiparkinsonian agents (extrapyramidal side effects), β -blockers (akathisia), mood stabilizers (mood instability, aggression), antidepressants (depression, negative symptoms), and/or benzodiazepines (anxiety, insomnia, akathisia). Benzodiazepines also are used as primary treatments for catatonia. There are no studies systematically addressing the use of adjunctive agents in youth with schizophrenia. Although adjunctive agents are widely used in adults with schizophrenia, further research is needed to establish their efficacy. Medication trials need to be conducted systematically to avoid unnecessary polypharmacy. Although youth with schizoaffective

disorder are often assumed to need concurrent antidepressants or mood stabilizers, these practices have not been systematically studied.

The ω -3 fatty acids have been suggested to be potentially useful as an adjunctive treatment for schizophrenia or as preventive therapy. One randomized controlled trial found that ω -3 fatty acids helped delay the onset of psychosis in high-risk patients. As of yet, this study has not been replicated, and at this time there are no interventions with conclusive evidence for treating prodromal psychosis.

Recommendation 7. A trial of clozapine should be considered for youth with treatment resistant schizophrenia spectrum disorders. [CS]

Clozapine is the only antipsychotic agent for which there is established superiority over other agents. However, owing to potential side effects, clozapine is reserved for treatment refractory cases, i.e., patients with two or more failed trials of a first-line antipsychotic agent.

Before using clozapine, it is important to review the child's clinical status and treatment history to ensure that the presentation accurately reflects treatment refractory schizophrenia. For complicated cases or the apparent diagnosis of schizophrenia in a younger child (e.g., <12 years), a diagnostic second opinion may be warranted.

When using clozapine, systematic monitoring of side effects, including following established protocols for blood count monitoring, is required. White blood cell and absolute neutrophil counts are obtained at baseline and weekly for the first 6 months to monitor the risk for agranulocytosis. These protocols require a coordinated effort among the pharmacy, laboratory, and physician to ensure that the blood count parameters are being monitored concurrently with prescriptions.

Recommendation 8. Baseline and follow-up monitoring of symptoms, side effects, and laboratory tests should be performed as indicated. [CS]

Antipsychotic medications need to be monitored systematically for side effects (for specific recommendations, see the [American Academy of Child and Adolescent Psychiatry \[AACAP\] Practice Parameter for the Use of Atypical Antipsychotic Medications in Children and Adolescents](#) [2013]). When using second-generation antipsychotic agents, it is particularly important to monitor metabolic functions and weight gain. Youth appear to be particularly prone to metabolic side effects, including the long-term risks of diabetes and hyperlipidemia.

Published data highlight the significant risk of weight gain with second-generation agents in children and adolescents and portend long-term risks for cardiovascular and metabolic problems. Thus, it is important that metabolic functions and risk factors are systematically monitored, including body mass index, fasting glucose, fasting triglycerides, fasting cholesterol, waist circumference, high-density lipoprotein/low-density lipoprotein, blood pressure, and symptoms of diabetes. Although the metabolic risks are widely recognized, most patients taking antipsychotic medications are not adequately monitored.

Consensus guidelines recommend the following:

- At baseline, assess the patient's and/or family history of obesity, diabetes, cardiovascular disease, dyslipidemia, or hypertension.
- Assess and document the patient's body mass index at baseline, at 4, 8, and 12 weeks, and at least every 3 months thereafter, or more often as indicated.
- Assess and document the patient's fasting glucose, fasting lipid profile, and blood pressure at baseline and after 3 months of treatment. If the results are normal after 3 months of treatment, glucose and blood pressure monitoring is recommended annually. If the lipid profile is normal after 3 months, follow-up monitoring is recommended at least every 5 years.

These consensus guidelines were developed for all age groups. Recommendations for pediatric patients suggest following up on metabolic parameters every 6 months, with more frequent monitoring as clinically indicated.

All patients prescribed antipsychotic agents should be advised of the importance of a healthy lifestyle, including cessation of smoking, healthy diet, and routine exercise. If a patient develops significant weight gain or evidence of metabolic syndrome (obesity, hypertension, dyslipidemia, and insulin resistance), the options include switching to a different antipsychotic agent with lower metabolic risk or adding an agent that targets metabolic problems (e.g., metformin). Clinically significant abnormalities (e.g., hypercholesterolemia) should be targeted for specific treatment and may require referral for specialty care.

Extrapyramidal side effects (EPSs), including dystonia, akathisia, tardive dyskinesia, and neuroleptic malignant syndrome, may occur with traditional or atypical agents and need to be periodically assessed throughout treatment. Standardized measurements, such as the Abnormal Involuntary Movement Scale and the Neurological Rating Scale, are helpful for monitoring for abnormal movements and neurologic side effects.

To avoid acute EPSs, the use of prophylactic antiparkinsonian agents may be considered, especially in those at risk for acute dystonias or have a history of dystonic reactions. The need for antiparkinsonian agents should be re-evaluated after the acute phase of treatment or if doses are lowered, because many patients do not need them during long-term therapy.

Other potential adverse events noted with antipsychotic agents include sedation, orthostatic hypotension, sexual dysfunction, hyperprolactinemia,

electrocardiographic changes (including prolongation of the corrected QT interval), elevated liver transaminases, and steatohepatitis. In adults, traditional and atypical antipsychotic agents are associated with an increased risk of sudden death. Sudden death is very rare in pediatric populations. However, clinicians should be aware of the potential impact of these agents on cardiac functioning, including corrected QT interval prolongation, and monitor appropriately.

Recommendation 9. Psychotherapeutic interventions should be provided in combination with medication therapies. [CG]

In adults with schizophrenia, interventions found to be helpful include cognitive-behavioral therapies, social skills training, cognitive remediation, and family interventions. The goals of treatment include symptom reduction, improving social/occupational functioning, enhancing quality of life, and decreasing the risk for relapse. In addition, interventions addressing comorbid conditions, such as substance abuse, are important to lower the risk of relapse and improve quality of functioning.

Although further studies are needed, youth with EOS should benefit from adjunctive psychotherapies designed to remediate morbidity and promote treatment adherence. Strategies for the patient include psychoeducation regarding the illness and treatment options, social skills training, relapse prevention, basic life skills training, and problem-solving skills or strategies. Psychoeducation for the family is also indicated to increase their understanding of the illness, treatment options, and prognosis and to develop strategies to cope with the patient's symptoms. Some youth will need specialized educational programs and/or vocational training programs to address the cognitive and functional deficits associated with the illness.

Recommendation 10. Electroconvulsive therapy (ECT) may be used with severely impaired adolescents if medications are not helpful or cannot be tolerated. [OP]

Research evidence supports the use of ECT, typically in combination with antipsychotic therapy, as a treatment for schizophrenia in adults. ECT is generally used for patients who do not adequately respond to or cannot tolerate antipsychotic medications or those with catatonia. ECT has not been systematically studied in youth with EOS. The clinician must balance the relative risks and benefits of ECT against the morbidity of the disorder, the attitudes of the patient and family, and the availability of other treatment options. Obtaining informed consent from the parents, including a detailed discussion of the potential cognitive deficits, is necessary.

Definitions:

Strength of the Empirical and/or Clinical Support

- Clinical Standard [CS] is applied to recommendations that are based on rigorous empirical evidence (e.g., meta-analyses, systematic reviews, individual randomized controlled trials) and/or overwhelming clinical consensus.
- Clinical Guideline [CG] is applied to recommendations that are based on strong empirical evidence (e.g., nonrandomized controlled trials, cohort studies, case-control studies) and/or strong clinical consensus.
- Clinical Option [OP] is applied to recommendations that are based on emerging empirical evidence (e.g., uncontrolled trials or case series/reports) or clinical opinion, but lack strong empirical evidence and/or strong clinical consensus.
- Not Endorsed [NE] is applied to practices that are known to be ineffective or contraindicated.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Schizophrenia spectrum disorders

Guideline Category

Diagnosis

Evaluation

Management

Screening

Treatment

Clinical Specialty

Pediatrics

Psychiatry

Psychology

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

Social Workers

Guideline Objective(s)

To present the most up-to-date research findings and clinical standards regarding the assessment and treatment of schizophrenia spectrum disorders

Target Population

Children and adolescents with schizophrenia spectrum disorders

Interventions and Practices Considered

Screening/Diagnosis/Evaluation

1. Psychiatric assessments including screening questions for psychosis
2. Use of *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* criteria
3. Evaluation for other pertinent clinical conditions and/or associated problems (suicidality, comorbid disorders, substance abuse, developmental disabilities, psychosocial stressors, and medical problems)

Treatment/Management

1. Antipsychotic medications
2. Ongoing medication therapy to improve function/prevent relapse
3. Adjunctive medications for side effects or associated symptomatology
4. Trial of clozapine for treatment resistant schizophrenia
5. Baseline and follow-up monitoring of symptoms, side effects, and laboratory tests
6. Psychotherapeutic interventions (cognitive-behavioral therapies, social skills training, cognitive remediation, and family interventions)
7. Electroconvulsive therapy for severely impaired adolescents

Major Outcomes Considered

- Accuracy of diagnosis
- Efficacy of antipsychotic medications
- Side effects of antipsychotic medications
- Improvement in social/occupational functioning
- Risk for relapse
- Effects of treatment on positive or negative symptoms
- Associated symptomatology (e.g., agitation, mood instability, depression, explosive outbursts)
- Efficacy of psychotherapeutic interventions

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Earlier versions of this parameter were published in 1994 and 2001. The most recent literature search covered a 5-year period (January 2004 through August 2010) using PubMed, PsycINFO (Ovid), CINAHL (EBSCO), and Web of Science databases. The initial searches were inclusive and sensitive for PubMed using a combination of MeSH headings and key words. The search was adjusted for CINAHL and PsycINFO by "translating," where necessary, from the MeSH thesaurus to the CINAHL and PsycInfo thesauri, and using the same key words. The Web of Science search also was adjusted because this database responds only to key-word searching.

In PubMed, the search strategy from the Cochrane Review Group on schizophrenia was used (see below), yielding 282,328 results. This was refined to reflect treatment studies and reviews with limits for ages 0 to 18 years and English language applied, resulting in 3,662 articles. Search in CINAHL yielded an additional 55 articles, Web of Science 214 articles, and PsycINFO 24 articles. Once duplicates were removed, there were 3,186 articles.

The titles and abstracts of these articles were reviewed. Many studies identified in the search were conducted in a primarily adult population with only a few adolescent subjects. Articles with a focus on early-onset schizophrenia (EOS) treatment (87) were prioritized for inclusion. Additional selection criteria were based on the study's weight in the hierarchy of evidence (e.g., randomized controlled trials), attending to the quality of individual studies and the generalizability to clinical practice. The search was augmented by review of articles published before 2004, those nominated by expert review, those recently accepted for publication in peer-reviewed journals, and those pertaining to adult-onset schizophrenia treatment.

Search terms (this search statement was modeled after the Cochrane Review Group on Schizophrenia Specialised Register search strategies originally designed for the OVID database, adjusted to work in the PubMed database): akathisia OR neuroleptic OR neuroleptics OR neuroleptic* OR parkinsonian* OR psychoses OR psychotic OR psychosis OR schizoaffective OR schizophren* OR tardive OR "childhood onset schizophrenia" OR "early onset schizophrenia" OR ((chronic OR paranoid) AND schizophren*) OR "Akathisia, Drug-Induced" [MeSH] OR "Dyskinesia, Drug-Induced" [MeSH] OR "Psychoses, Substance-Induced" [MeSH] OR ("Antipsychotic Agents" [MeSH] OR "Catatonia" [MeSH]) OR "Neuroleptic Malignant Syndrome" [MeSH] OR "Parkinsonian Disorders" [MeSH] OR "Schizophrenia and Disorders with Psychotic Features" [MeSH] OR "Schizophrenia, Childhood " [MeSH].

Number of Source Documents

See the "Description of Methods Used to Collect/Select the Evidence" field for the number of documents retrieved from each database searched.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

The strength of the empirical evidence is rated in descending order as follows:

- Randomized, Controlled Trial [rct] is applied to studies in which subjects are randomly assigned to two or more treatment conditions
- Controlled Trial [ct] is applied to studies in which subjects are nonrandomly assigned to two or more treatment conditions
- Uncontrolled Trial [ut] is applied to studies in which subjects are assigned to one treatment condition
- Case series/report [cs] is applied to a case series or a case report

Methods Used to Analyze the Evidence

Systematic Review

Description of the Methods Used to Analyze the Evidence

The strength of the empirical evidence is rated in descending order (see the "Rating Scheme for the Strength of the Evidence" field).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

American Academy of Child and Adolescent Psychiatry (AACAP) Practice Parameters are developed by the AACAP Committee on Quality Issues (CQI) in accordance with American Medical Association policy. Parameter development is an iterative process among the primary author(s), the CQI, topic experts, and representatives from multiple constituent groups, including AACAP membership, relevant AACAP committees, the AACAP Assembly of Regional Organizations, and the AACAP Council. Details of Parameter development process can be accessed on the AACAP website. Responsibility for Parameter content and review rests with the author(s), the CQI, the CQI Consensus Group, and the AACAP Council.

AACAP develops patient-oriented and clinician-oriented Practice Parameters. Patient-oriented Parameters provide recommendations to guide clinicians toward best assessment and treatment practices. Recommendations are based on critical appraisal of the empirical evidence (when available) and clinical consensus (when not) and are graded according to the strength of the empirical and clinical support. Clinician-oriented Parameters provide clinicians with the information (stated as principles) needed to develop practice-based skills. Although empirical evidence may be available to support certain principles, principles are based primarily on clinical consensus. This Parameter is a patient-oriented Parameter.

Rating Scheme for the Strength of the Recommendations

Recommendations for best assessment and treatment practices are stated in accordance with the strength of the underlying empirical and/or clinical support.

- Clinical Standard [CS] is applied to recommendations that are based on rigorous empirical evidence (e.g., meta-analyses, systematic reviews, individual randomized controlled trials) and/or overwhelming clinical consensus.
- Clinical Guideline [CG] is applied to recommendations that are based on strong empirical evidence (e.g., nonrandomized controlled trials, cohort studies, case-control studies) and/or strong clinical consensus.
- Clinical Option [OP] is applied to recommendations that are based on emerging empirical evidence (e.g., uncontrolled trials or case series/reports) or clinical opinion, but lack strong empirical evidence and/or strong clinical consensus.
- Not Endorsed [NE] is applied to practices that are known to be ineffective or contraindicated.

Cost Analysis

The guideline developers reviewed published cost analyses.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This Practice Parameter was reviewed at the Member Forum at the American Academy of Child and Adolescent Psychiatry (AACAP) Annual Meeting in October 2009.

From December 2011 to June 2012, this Parameter was reviewed by a consensus group convened by the Committee on Quality Issues (CQI).

This Practice Parameter was approved by the AACAP Council on November 20, 2012.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Recommendations are based on the critical appraisal of empirical evidence (when available) and clinical consensus (when not), and are graded according to the strength of the empirical and clinical support.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate diagnosis and management of children and adolescents with schizophrenia spectrum disorders

Potential Harms

- There are few studies comparing the efficacy and safety of different agents for early-onset schizophrenia (EOS). In one study, sedation, extrapyramidal side effects (EPSs), and weight gain were common.
- A naturalistic follow-up study of youth with first-onset psychosis (n = 109) found that the agents used most often by providers were risperidone, quetiapine, and olanzapine. Olanzapine caused more weight gain, whereas risperidone was associated with more neurologic side effects.
- In another naturalistic study, significant increases in cholesterol and/or triglycerides were noted in subjects taking olanzapine, quetiapine, and risperidone.
- In an epidemiologic survey, questions regarding possible psychotic symptoms had a high rate of false-positive results.
- See the "Major Recommendations" field for further information on side effects of pharmacological therapies.

Qualifying Statements

Qualifying Statements

The American Academy of Child and Adolescent Psychiatry (AACAP) Practice Parameters are developed to assist clinicians in psychiatric decision making. These parameters are not intended to define the sole standard of care. As such, the parameters should not be deemed inclusive of all proper methods of care or exclusive of other methods of care directed at obtaining the desired results. The ultimate judgment regarding the care of a particular patient must be made by the clinician in light of all the circumstances presented by the patient and his or her family, the diagnostic and treatment options available, and other available resources.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Patient Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

McClellan J, Stock S, American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Quality Issues (CQI). Practice parameter for the assessment and treatment of children and adolescents with schizophrenia. J Am Acad Child Adolesc Psychiatry. 2013 Sep;52(9):976-90. [130 references] [PubMed](#)

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

1994 Jun (revised 2013 Sep)

Guideline Developer(s)

American Academy of Child and Adolescent Psychiatry - Medical Specialty Society

Source(s) of Funding

American Academy of Child and Adolescent Psychiatry

Guideline Committee

American Academy of Child and Adolescent Psychiatry Committee on Quality Issues (CQI)

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Financial Disclosures/Conflicts of Interest

Disclosures: Dr. McClellan receives or has received research support from the National Institute of Health. Dr. Stock has received research funding from Forest, Merck/Schering-Plough, Supernus Pharmaceuticals, Inc., Bristol-Myers Squibb, AstraZeneca LP, and Boehringer-Ingelheim. Dr. Bukstein receives research support from Shire, has served as a consultant with PRIME Continuing Medical Education and EZRA Innovations, and has intellectual property with Routledge Press. Dr. Walter has no financial relationships to disclose. Disclosures of potential conflicts of interest for all other individuals named above are provided on the American Academy of Child and Adolescent Psychiatry (AACAP) website on the [Practice Parameters page](#) .

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: American Academy of Child and Adolescent Psychiatry. Practice parameter for the assessment and treatment of children and adolescents with schizophrenia. Washington (DC): American Academy of Child and Adolescent Psychiatry; 2000 Jun 6. 40 p. [125 references]

Guideline Availability

Electronic copies: Available from the [American Academy of Adolescent and Child Psychiatry \(AACAP\) Web site](#) .

Availability of Companion Documents

None available

Patient Resources

The following is available:

- Schizophrenia in children. Facts for families. Washington (DC): American Academy of Child and Adolescent Psychiatry; 2013 Jul. Available from the [American Academy of Adolescent and Child Psychiatry \(AACAP\) Web site](#) .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide

specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This summary was completed by ECRI on June 30, 1998. The information was verified by the guideline developer on December 1, 1998. The updated guideline summary was completed by ECRI on February 12, 2002. The information was verified by the guideline developer on May 1, 2002. This summary was updated by ECRI Institute on November 14, 2014. This summary was updated by ECRI Institute on December 18, 2014 following the U.S. Food and Drug Administration advisory on Ziprasidone. This summary was updated by ECRI Institute on October, 5 2015 following the U.S. Food and Drug Administration advisory on Clozapine. This summary was updated by ECRI Institute on April 15, 2016 following the U.S. Food and Drug Administration advisory on Metformin-containing Drugs. This summary was updated by ECRI Institute on May 24, 2016 following the U.S. Food and Drug Administration advisory on Olanzapine. This summary was updated by ECRI Institute on May 31, 2016 following the U.S. Food and Drug Administration advisory on Aripiprazole (Abilify, Abilify Maintena, Aristada).

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